DOCUMENT RESUME

ED 209 998 HE 014 570

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TITLE	Department of Education, University of Linkoping, Graduate Studies and Research.
INSTITUTION	Linkoping Univ. (Sweden). Dept. of Education.
REPORT NO	ISBN-91-7372-484-X; LIU-PEK-R-69
PUB DATE	Jul 81
NOTE	39p.: Not available in paper copy due to small type.
AVAILABLE FROM	Linkoping University, Department of Education, S-581 83 Linkoping, Sweden.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Admission Criteria; *Adult Education; Adult Students; Behavioral Science Research; Departments; *Doctoral Programs; *Educational Research; Foreign Countries; Graduate Study; Higher Education; Inservice Teacher Education; *Masters Programs; Program Descriptions; *Schools of Education; *Teacher Education
IDENTIFIERS	*Linkoping University (Sweden)

ABSTRACT

Graduate studies and research at the Department of Education of the University of Linkoping are described. After providing a general review of the university with special consideration to the Department of Education, research and graduate studies offered in the various departments, as well as in the new institute for theme-oriented research, are briefly covered. Project descriptions of ongoing research in each of four areas are presented: teacher education and inservice teacher training, adult education, the general educational system, and fundamental and general behavioral science problems. Attention is also directed to graduate studies in education, including the aims, qualifications for admission, course work, advisors, and examinations. Two lines of study within the doctoral degree program are available--a general line and a teaching methods line--and a masters degree in education is also offered. Specific ongoing research projects include: experimenting with models of decentralized inservice teacher training that give the teacher a more active role and that emphasize the supportive role of central and regional authorities; integrating international questions in informal adult education; investigating obstacles encountered by workers in obtaining access to higher education; evaluating primary school education for adults with regard to the methods and work forms being used; studying possibilities for and effects of interdisciplinary project studies and increased student influence in upper secondary school; and investigating the views of students and faculty in the doctoral programs within the departments of education in Sweden. (SW)

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UNIVERSITY OF LINKÖPING
Department of Education
Report LiU-PEK-R- 69

ED209998

DEPARTMENT OF EDUCATION, UNIVERSITY OF LINKÖPING
Graduate Studies and Research

Ingvar Werdelin and Lenore Arnberg (Editors)

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IR011570

Linköping July 1981

UNIVERSITY OF LINKÖPING
Department of Education
Report LiU-PEK-R-69

Department of Education, University of Linköping
Graduate Studies and Research

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Inquiries about the book should be made to:
The Director, Department of Education
University of Linköping
S-581 83 Linköping, Sweden

ISBN 91-7372-484-X
ISSN 0348-4785

Linköping University
Department of Education
S-581 83 Linköping, Sweden

Avdelning, institution, fakultet

Pedagogiska institutionen

ISBN: 91-7372-484-X

ISSN: 0348-4785

Rapportnr: LiU-PEK-R-69

Upplagans storlek: 500 ex

Datum: Juli 1981

Projekt

Titel: Department of Education, University of Linköping.
Graduate Studies and Research

Författare: Ingvar Werdelin and Lenore Arnberg (Editors)

Uppdragsgivare:

Dnr.:

Rapporttyp:

- ☐ Ansökan
- ☐ Delrapport
- ☐ Resarapport
- ☐ Slutrapport
- ☒ Övrig rapport

Rapportspråk:

- ☐ Svenska
- ☒ Engelska
- ☐ _____

Sammanfattning (högst 150 ord)

The present report describes the graduate studies and research at the Department of Education of the University of Linköping. Part One gives a general description of the university with special consideration to the Department of Education. Research and graduate studies offered in the various departments, as well as in the new institute for theme-oriented research, are also briefly described. In Part Two, the research activities at the Department of Education are discussed in greater detail. Project descriptions of ongoing research in each of four areas are given: teacher education and in-service teacher training, adult education, the general educational system, and fundamental and general behavioral science problems. Part Three describes the graduate studies in education, including the aims, qualifications for admittance, course work, advisors, and examinations. Two lines of study within the doctoral degree program are available; a general line and a teaching methods line. A masters degree in education is also offered.

Nyckelord (högst 8)

Graduate study, doctoral programs, educational research, adult education

Bibliotekets anteckningar

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INTRODUCTION

The purpose of this paper i to present a picture of the graduate studies and research at the Department of Education of the University of Linköping. It is directed toward several groups of readers, e.g., other departments of education, other departments and agencies interested in educational development, students who wish to obtain doctoral degree in education, and others.

The data presented are relevant to the beginning of the fall semester 1981. Those who wish to have the latest data should contact the department directly.

The first part of the paper gives general information about the university and its organization. Following is a short description of the research currently being carried out at the Department of Education. Finally, there is a description of graduate studies in education.

THE UNIVERSITY OF LINKÖPING

a) The organization of the university

Linköping is a medium-sized industrial town. It has been an important bishopric since the twelfth century and a center of culture and learning, as well as the county seat, for many years. Beside the university, there were until the spring semester, 1977, a number of older schools at the university level: a teacher training college, a college for manual arts, and a nursing school. The two former institutions are now part of the university system.

The university is a young organization. It started as a branch of the University of Stockholm, and as recently as 1970, became an independent university with colleges of liberal arts and sciences, technology, and medicine. In 1975, the term university was introduced. In connection with the university reform in 1977, it was reorganized. The above-mentioned teacher training institutes were affiliated with the main university, as was the former college of pre-primary teacher training. Some essential features of the university will be described, as the University of Linköping, in some respects, differs from other Swedish universities.

A College of Technology, with an enrollment of about 2000 students, has a civil engineering program and conducts technical research. There is also a College of Medicine with approximately 300 students. Medical research is also carried out. There is a College of Liberal Arts and Sciences, with departments in natural sciences and mathematics, social sciences, and the humanities. This college has between 3000 and 4000 students. Research is carried out at some departments and also within so-called themes, which will be discussed below. Finally, teacher training is provided at the department of teacher training in Linköping, the department of manual arts in Linköping, and the department of pre-primary teacher training in Linköping. Together these programs have about 1200 students.

While the technical and medical education and research are conventionally organized, that of the liberal arts and sciences differs from what is normally the case at other universities.

Within the College of Liberal Arts and Sciences there are a number of large departments:

The Department of Languages and Literature (subjects: English, French, German, Scandinavian Languages, Literature, Swedish Literature, Swedish),

The Department of Social Sciences (History, Cultural Geography, Psychology, Sociology, Political Science, Social Politics),

The Department of Teacher Training,

The Department of Manual Arts,

The Department of Pre-Primary School Teacher Training,

The Department of Economics (Micro-Economics, Macro-Economics, Business Law, Labor Market Techniques and Personnel Administration),

The Department of Mathematics (Information Theory - especially Numerical Analysis, Information Theory - especially Computer-Based Data Treatment, Mathematics, Mathematical Statistics, Optimization, Statistics),

The Department of Physics and Measurement Technology (Biology, Chemistry, Physics, Measurement Technology),

The Department of Education.

Research and graduate studies in liberal arts and sciences in Linköping differ markedly from those of other universities. In Sweden, as in other countries, these are normally carried out within the various departments. Each department has its own professors and lecturers and organizes research and graduate studies within its field. This type of graduate study is found only in some departments in Linköping, e.g., at the Departments of Economics, Social Sciences (in Government only), Mathematics, Physics and Measurement Technology, and Education. Among the liberal arts, only education has departmentally organized research.

The research and graduate studies now being developed will have a completely different organization. The various departments will, except for the above-mentioned ones, offer only under-graduate studies. Research and graduate studies will be organized within so called *themes*, which are interdisciplinary. Within each theme there will be a permanent staff of professors and researchers. Additional associates will be recruited from the various departments. Each theme will be responsible for interdisciplinary research and graduate studies within its area. The themes are subdivided into subthemes, which are further divided into projects for research.

Four themes are being organized: Health and Medical Care in Society, Communication and the Transfer of Information, Technology and Social Change, and Water in Nature and Society.

b) *The Department of Education*

The Department of Education is divided into three sections with the following areas of responsibility:
Education within Teacher Training,
Education within the area of Arts and Sciences, and
Higher Education and Research.

This separation is both economic, each section having its own budget, and administrative. Most teachers and other employees are involved in the work of a single section, although some work in more than one area.

While the departments of manual arts and pre-primary school teacher training are solely responsible for the training of their respective teacher categories, the departments of education and teacher training are jointly responsible for the education of all other student teachers. The following categories of teachers were educated during the spring term, 1981.

Teachers of grades 1-3 (72 students),
Teachers of grades 4-6 (144)
Recreational Instructors (150)
Special education teachers (120, of which 24 were taking a one-semester course),
Secondary school teachers (126), and
Folk high school teachers (65).

Within the liberal arts section, the following courses were offered during the spring term, 1981. According to the Swedish system, undergraduate courses are offered at four levels, A, B, C and D. The complete A level corresponds to 20 credit points (each point corresponding to about one week of full-time studies), the B level to 20 additional points, and so on. The full course system from A through D thus requires a minimum of four semesters of full-time studies. In Linköping, undergraduate studies are offered in education at all four levels.

Education at the A level (about 45 part-time students),
Education at the B level (70; of whom 30 were part-time),
Education at the C level (6 newly registered students and 30 students from the previous year),
Education at the D level (10 part-time),
A course in individual and organizational development, 20 credit points (30 part-time students),

Education for medical personnel, 20 credit points (20 part-time),
A course in the relationship between children and adults, 20 credit points (30 part-time),
A course in psychotherapy, 20 credit points (22 part-time).

Moreover, the subjects Education, Psychology and Sociology collaborate on a course in Behavioral Sciences. Education is estimated to be responsible for 40-50 percent of this course, which totals 120 credit points and admits 60 students each year.

The total number of students in the education department is estimated to be about 450, the majority of which are part-time students.

The section for higher education and research will be discussed in detail in the next section. The only higher degree obtainable through the study of education is that of Doctor of Philosophy. Research has so far been concentrated to so-called research projects. Many of these have been commissioned. Individual research of a meritor character is also carried out, mainly by students preparing theses.

The department has about 80 employees, most of them full-time. At the time of writing there was a professor, an associate professor, 12 senior lecturers, 12 junior lecturers, and various researchers and administrative personnel.

The department of education differs in some respects from the other departments of liberal arts and sciences in Linköping as there are research and graduate studies, and the department has a staff including professors. This means that it has a larger field of responsibility than that of many other departments, that the relationship between research and education is more clearly established, and that the department has greater resources. The future research organization, including theme-oriented research will improve the situation for other departments in Linköping, provided that a viable contact can be made between them and the themes.

EDUCATIONAL RESEARCH IN LINKÖPING

a) *Development*

As mentioned previously, prior to 1977, other departments of education in addition to that of the university were in existence. The department of education at the teacher training institute was created in 1968. Into this organization was incorporated research and development that was previously carried out at the state experimental school in Linköping. The department received a professorship and an associate professorship on January 1, 1970. A number of research projects were located there. Among those completed may be mentioned the following:

The Study Day Project
Course Selection in Adult Education Organized by the Communes
The Study of Certain Reading, Writing and other Communicative Abilities in Adults
Qualitative Evaluation of Pre-service Training of General and Subject-matter Teachers
Studies of the Effects of Individualized Instruction in Reading and Writing in Pre-primary School
Linguistic Development and Social Influence
The Planning Project

The department of education at the earlier Linköping branch of Stockholm University was created in 1971. This was also rapidly given means for research, although it lacked posts for researchers. Some adult education projects were placed here. Among those now completed are

The Nordic Adult Education Project
Method and Media Selection in Adult Education
Methods and Educational Material in Labor Market Education
Cost and Result Analysis in Adult Education
Training of Medical Patients

The period 1968/69 to 1977/78 can be characterized as one of rapid development of projects at the two departments. The total budget rose from practically nothing to over four million Swedish Crowns (including salaries for professors and others). Since 1978/79, however, there has been a certain stagnation due to the present recession in Sweden.

There has been no conscious attempt to direct research toward specific areas. Researchers and the department have received grants from a number of different funds. As the largest part of research financing has been from one donor (the National Board of Education), the research policy of the Board has had some influence on the direction of educational research in Linköping.

b) *Projects in progress*

The research carried out at the departments in Linköping in recent years, and which has continued in 1980/81, may be grouped under the following headings:

1. Research in teacher education and in-service teacher training
2. Research in adult education
3. Research in the general educational system
4. Research into fundamental and general behavioural science problems

On the following pages is a brief description of the projects in progress at the beginning of the fall semester 1980, or which were completed shortly before that time.

1. Research in Teacher Training and In-service Teacher Training

Models for In-service Teacher Training

The aim of this project is to try out models of decentralized in-service teacher training which give the teacher a more active role than was previously the case and which emphasize the stimulating and supporting functions of central and regional authorities.

The work follows two major lines. One concerns local in-service training with centrally assigned themes, the other focuses on forms for increased teacher participation in locally initiated in-service training. In both, case work is done with teams of consultants and locally recruited school teams. The latter include representatives for administrators, teachers and other personnel. The teams function as special support groups for local in-service training. Their work in planning, carrying out and following up in-service training in their respective schools is being studied during three semesters by the project group. The gathering of information is done through direct observation, interviews and questionnaires as well as by means of consultants and reference groups. Special interest is paid to team teaching.

The project was begun during the fiscal year 1974/75 and has been financed by the research and development fund of the National Board of Education.

Evaluation of School Principal Education

Approximately 500 school principals will participate in an education program each year. This project aimed to determine the results of the trial period of the program and to study the effects of the various forms of education.

In the evaluation, the primary emphasis was on school activities and the principal's role, although attitude changes in individual principals was considered as well. The course begun during the spring semester, 1977, was followed for two years, i.e., the entire duration of the course. Data collection was carried out in the form of interviews, questionnaires, and observations.

The project was begun during 1976/77 and completed during 1979/80. The work is being continued in a new project where intensive evaluation of various aspects of the educational effects is being carried out. This work is expected to continue until 1983/84. Both projects have been financed by the National Board of Education.

Education Concerning International Understanding in Teacher Training

The aims of this proje . are to study and analyze the opinions about and attitudes toward edu .tion concerning international understanding, as well as the sources of t.ese attitudes, in teacher training of elementary school teachers of grades 4 - 6.

In a pilot study, 15 randomly selected newly graduated elementary school teachers of grades 4 - 6 were interviewed. Experiences with methods used by English and American researchers in this field have been studied. As a complement to the study, a test measuring students' readiness for action in connection with international understanding was administered. The main study has consisted of extensive interviews with 40 elementary school teachers for grades 4 - 6.

The project started during the spring term of 1978 and is expected to be completed during 1981. It has been financed in part by the Office of the University Chancellor through its development fund.

2. Research in Adult Education

The Integration of International Questions in Informal Adult Education

The aim of this project is to develop and test models for the integration of international questions in informal adult education. The main area being studied is how international questions can naturally be integrated into general subjects and courses not having a direct international theme.

The project began with a survey of different educators' views concerning the aims, content, and methods for the integration of international questions in informal adult education. During 1977/78, experimental activities with different models took place. Methods related to daily life areas of course participants were emphasized. At the same time, forms for increasing cooperation between different organizations engaged in informal adult education were studied. One study examined different ways of utilizing the

knowledge and experience of immigrants; another looked at attempts to bring in international questions in the study material. The project has been documented in study materials intended for in-service training of teachers and advisors.

The project was begun during the spring semester, 1975, and is expected to be completed during 1980/81. It has been financed by the National Board of Education.

The Cultural Activities of the Folk High Schools

The project has two main aims, i.e., to develop and test models for:

the integration of theoretical subjects and practical aesthetic activities in the folk high school

the possibility of the folk high school serving as a cultural center in the community

The project will be so constructed as to give results of value to all forms of adult education.

The project was begun in the fall semester, 1978, and is estimated to continue until the spring semester of 1980. It is financed through the Research and Development Fund of the National Board of Education.

Trials with Planning and Development Work at Centres for Labor-Market Training

The project has three aims: to study the possibilities of an integration of educational development with regional and local activities at centres for labor-market training, to carry out and evaluate developmental experiments at such centres, and to try a participative form of research within this field. There is local cooperation between researchers, teachers, planners and in-service trainers. The researchers will be utilized as a resource in the working out of problems, experienced by the participants themselves.

The project was begun in the fiscal year 1977/78 and is estimated to continue through the fiscal year 1979/80. It is financed by the research and development fund of the National Board of Education.

The Portugal Project

The need for adult education in Portugal is extensive. A fourth of the adult population is illiterate. Following the Portuguese revolution in 1974, the government and parliament have invested large resources in education, one of the goals being to eradicate illiteracy. Sweden, through SIDA, has contributed to educational development in Portugal and since 1977, funds have been used to finance projects in adult education. Linköping University has been commissioned by SIDA to work together with Portuguese organizations and authorities in carrying out a project to promote adult education in Portugal, which constitutes the present project, a bilateral research and development aid project.

The main goal of the Portugal Project is to establish institutions of adult education at two Portuguese universities as well as to contribute to a national developmental plan for adult education.

The following sub-projects will be carried out by researchers and teachers from Linköping University in conjuction with Portuguese educators:

- development, carrying out, and evaluation of courses in adult education at the Universities of Braga and Evora
- education in adult pedagogics for Portuguese students at Linköping University
- research and development work concerning analysis of needs and problems of those receiving aid in Portugal
- courses in adult education for teachers planning to work in the national adult education program
- experiments with different forms of adult education
- special courses in research methods

In addition, the project aims to promote an exchange of information between Sweden and Portugal.

The project was begun during the fiscal year 1977/78 and is estimated to continue through the fiscal year 1980/81. It is being financed by SIDA.

Access to higher education

The aims of the study are

- to investigate the extent to which workers in different countries have access to higher education facilities and their motivation for such studies,
- to investigate difficulties and obstacles encountered in their obtaining access to opportunities for higher education, and
- to develop measures aimed at facilitating these opportunities.

A questionnaire has been sent to organizations in most countries, and relevant literature on the problem is being studied. The study is being carried out in close cooperation with Unesco.

Successive Admittance in Labor Market Training Centers

The project has two main goals: to describe an admittance form (successive admittance) used at labor market training centers and to carry out an investigation aimed at analyzing and solving problems connected with the use of this type of admittance form in the functioning of the centers' programs.

During the initial half-year of the project, an analysis of the problem area as well as of the opportunities for carrying out an investigation at three centers was carried out by means of two questionnaire studies.

The main investigation began during the fall, 1978. The project can be characterized as using an action research approach emphasizing the teachers' and course participants' active involvement in the planning and carrying

out of the work. A problem-solving and change-oriented approach has been stressed. The work has concentrated on the following:

a) to awake an interest in and initiate work groups consisting of teachers and course participants at three centers

b) to analyze, together with these groups, problems in the educational and working environments which are directly or indirectly related to the successive admittance program

c) to base further work on the problems, ideas, and suggestions initiated by the groups' investigation of their own learning and working situation

Totally, ten groups of teachers and course participants at three different centers have been involved in the project.

The project began in 1976/77 and was completed during 1980. An evaluation of the groups' progress and the results has occurred continuously. The evaluation has emphasized a description and analysis of the problem-solving and change processes which have occurred within the groups as well as the effects of the project on the participants' experience of satisfaction both with their work and their working environment. Three reports from the project are available.

The project has been financed by the research and development fund of the National Board of Education.

The Communicative Abilities of Adults

The project has had the following aims:

- a survey of the existing primary school education for adults
- a survey of the demands of society on the communicative abilities of adults (i.e., reading, writing, speaking, arithmetic)
- a survey of how many individuals are in need of adult primary school education

The background to this project is the fact that the number of Swedish-speaking persons who cannot read or write satisfactorily is large, as is the number of illiterate immigrants. Society is now prepared to allocate greater resources to the solution of these problems.

Developmental work to find forms of recruitment to primary school education for adults was begun in three communes. The work was meant to result in models useful in other communes as well. A survey of adult primary school education was carried out in five communes and data on organizational forms, teaching materials and other areas were collected. A number of studies were planned, aimed at giving a picture of the communicative abilities of adults. The studies have been based, among other sources, on material collected from the mass media (newspapers and television), as well as from governmental agencies.

The project was begun during the fiscal year 1977/78 and was completed during the fiscal year 1979/80. It was financed by the National Board of Education.

Evaluation of Primary School Education for Adults

The project has the following aims:

1) to evaluate primary school education for adults with regard to the methods and work forms being used

2) to follow-up earlier participants in adult education

During the project's initial year (1979), the work was aimed at surveying primary school education for adults in three communes of varying size. This survey resulted in an inventory of problems which was used for decision-making concerning developmental work during the next phase of the project.

The project is financed by the National Board of Education.

Conditions for Integration in Adult Education

The project's main goal is to shed light upon the conditions necessary for a more extensive integration of study groups in adult education. Two central subgoals are the following:

(a) To develop the general basis for decisions concerning the structuring of adult study groups. Special interest will be devoted to variables concerning the potential students' expectations as to their study situation and the relation between these expectations and later educational (and other) experiences.

(b) To study the effects of different practical solutions to the integration problem. As a first step in this work, the general influence of age integration on attitudes and achievement will be investigated.

The project will involve both groups from the main organizations responsible for adult education (e.g., labor market training, municipal adult education etc.) as well as groups from institutions other than those providing adult education in the strict sense, e.g., the secondary school. Extensive studies will be complemented by studies of a more intensive nature in a smaller number of communes, using methods of observation, interviews, and continuous contact with various groups. The contact with the groups studied will also continue over a relatively long period of time following the completion of a course in order to study the long-term effects of the education.

The project will start during the fiscal year 1980/81, and will continue over a five-year period, i.e., until 1984/85. It is being financed by the National Board of Education.

Primary and Secondary Aims of Adult Education

Informal educational organizations and trade unions are organized at three levels: local, regional and national. Decision-making is carried out by functionaries chosen by trade union members. The project studies how aims for education can be identified within such a national organization, and how they steer the education. It also tries to develop a system for continuous evaluations of educational activities.

The ideas of the project group are used and tested in the education of trade union club functionaries of the national labor organization. Fifty

study groups and 10 intensive courses, all involving continuing education in general trade union areas, have tested a methodological package. This has included instruments for systematic gathering of opinions and experiences before, during and after the course. The data collected have been used in an analysis of how continuous information has been used as a basis for decision-making at different levels of the organization. It has also been the basis for a comparison of two course types.

The project was begun in 1975/76 and is expected to be completed during 1980/81. Funds were provided by the National Board of Education.

Development Programs for Personnel Management

The State Personnel Council is carrying out development programs with the aim of developing the personnel management function of work managers in state offices and developing an efficient personnel administration within these offices. This project has, as its main purpose, to develop a program and a work model to try to achieve these changes. It has studied existing literature and previous research into the personnel management role, surveyed values, responsibilities, structure and problems concerning the personnel function in several authorities, and described an experimental program. There has been close cooperation with the State Personnel Council.

The project was begun during the fall semester 1977, and completed during 1980. It has been financed by the State Personnel Council.

Education, Participation, and Innovation in Small Industries

Innovation in industry has mainly been studied from an economic, technical, and marketing perspective. A behavioristic perspective in relation to research concerning the innovation process has primarily focused on the creative ability and processes within the individual and the group influencing creativity.

Democratization in industry demands an increased participation from employees at all levels of the organization in the decision-making process. This applies to the generation of new ideas and the development of new products within a manufacturing industry as well.

The present project aims to study the effects of the education and participation process on the tendency for innovation in small industries. A preliminary study has been carried out whose aim was to develop methods and carry out an experiment in product development within one industry. The evaluation has focused on the effects of this activity as well as on the implications for further development of methodology.

The project was begun in 1979 and is financed by the State Industrial Board.

'Quality Control' of Technical Education

Business and governmental agencies, to a greater and greater extent, make use of external educational services in the form of, e.g., consultants, courses, etc. The supply of these services is extensive and often difficult to assess, especially in connection with educational services accompanying

new technical products. There is thus a great need for developing a system of 'quality control' for educational services which are available on the market. An essential first step in this direction would be to demand that the goals for the educational service are described in detail in such a way as to enable the comparison of the various services available.

The present project aims to present a basis on which such a system for 'quality control' could be developed. In the first phase, during 1980/81, a literature study will be carried out focusing on research investigating views concerning the function of educational goals in relation to different pedagogical approaches.

The project is expected to continue in 1981/82 and is financed by the National Defense Research Institute.

Development of a Problem-Oriented Methods Education for Course Instructors

Experiences in various administrative provinces in Sweden has shown that the access to competent instructors having methods training in problem-oriented studies is unsatisfactory. In order to satisfy this need, it is suggested that potential teachers be given the opportunity to participate in a comprehensive education which increases their ability to contribute in courses having a problem-oriented approach. Similar goals should be aimed toward on a national basis in order to raise the level of and increase the quality in the different types of education concerned.

The main goal of the project is to develop a problem-oriented methods education for teachers (e.g., supervisors, study circle leaders, etc.) within basic and continuing education areas. The subgoals of the project are the following: to develop an approach which is suitable for use in small and medium-sized companies, to develop a comprehensive view as well as increase the capacity to analyze in the learning, and to develop insight into and receive training in problem-solving and teaching methods. These goals will be achieved through giving course participants increased knowledge, increased training in methods, better preparation for handling various aspects of continuing education situations, and an increased understanding concerning conditions for learning in adults.

The project will be carried out in connection with the State Industrial Board.

Studies of the Relation Between Flight Training and Flight Safety Ability

Since 1974/75, a research and development project has been carried out in conjunction with the Swedish Board of Civil Aviation. The aim of this project has been to develop an improved education system for civil aviators, based on an analysis of knowledge requirements and educational objectives, with completion standards and examination forms. This system is now in effect.

The present work is directed towards studying the effets of teaching to meet the goals expressed in the educational system, measured by the applicants knowledge as well as proficiency related to accidents and near-accidents.

The work is concerned with studying factors related to individual aptitudes

and qualities expressed in terms of knowledge, attitudes, skills and experiences related to aviation safety.

The research will focus on the prediction of pilot training performance and the extent to which individual training progress acts as a variable in the training system.

The project's new phase during 1980/81 has received financial support from the Transport Research Delegation in Stockholm and will proceed in conjunction with the Board of Civil Aviation and Royal Institute of Technology, Department of Aeronautics.

3. Research Related to the General Educational System

Interdisciplinary Project Studies and Increased Student Influence

The aim of this project is to study possibilities for and effects of interdisciplinary project studies and increased student influence in upper secondary school. Since the fall semester, 1976, two classes, and since the fall semester, 1977, two further classes in the so-called esthetic variant (two-year social line) of the Swedish secondary school have been followed. These classes have used the above-mentioned method during the study of esthetic and social-science subjects. The effects concerning administrative problems, student and teacher participation and roles, direction of teaching, and so on have been analysed through observation and questionnaires. An evaluation of the project is taking place.

The project began in 1975/76 and will be completed in 1980/81. It has been developed through intimate cooperation with Katedralskolan in Linköping. The project has been partially supported by the National Council for Social Science Research.

Climate Studies in Day Nurseries

The main aims of the project are to examine the attitutes toward child-rearing of staff at day-care centers and to what extent these attitudes agree with the behavior of staff, to examine how organizational factors within the day-care center influence the possibilities of staff to act in accordance with their attitudes, and to study how differences in attitudes and behavior influence social development in the children.

During the first planning phase of the study, the main aim is to construct instruments for measuring attitudes of staff toward child-rearing and for the observation of both children and staff in different situations.

The first phase of the project is being financed by the Swedish Council for Research in the Humanities and Social Sciences.

Day-Care Homes for Socially Handicapped Children in Sweden

The aim of this project is to study the organization, working methods and recruitment forms of day-care homes for socially handicapped children with emphasis on methods of work and societal aspects.

Society is facing new and difficult educational problems. A new attitude towards the school child has developed and new methods come into practice. Questions of integration, flexibility, teamwork, leisure time activity and use and coordination of available resources must be answered. It is important to study how these problems have been solved in different day-care homes as well. In order to gain insight into the situation of students in such homes, one must study and evaluate background factors that are given by medical, psychological, psychiatric, familial, social and other sources.

The project is interdisciplinary, jointly carried out by the Department of Psychiatry and Social Medicine and the Department of Education at the University of Linköping. It was begun during the fall semester, 1978, and will be completed during the spring semester, 1981. The project is supported by the National Board of Social Development.

Evaluation of the Doctoral Programs in Education in Sweden

The aim of this project is to investigate the views and experiences of students and faculty in the doctoral programs within the departments of education in Sweden. The study tries to answer questions concerning the overall characteristics of the doctoral programs in education. It also aims at comparisons between the students' and faculty's opinions concerning the programs, objectives of the doctoral studies, and students' achievements, as well as considerations of the factors behind the differences.

Four hundred and forty four (out of about seven hundred) doctoral students in education and the faculty at the five departments of education were asked to complete a comprehensive questionnaire. In order to analyze the data, statistical methods such as descriptive analysis of the data, correlational analysis, and multivariate analysis have been used. A deeper study is also in progress presenting a complementary analysis by using the so-called "soft data". The project was begun in the fall of 1978, and will be completed during the academic year 1980/81.

4. Reserarch in Other Behavioral Science Areas

Language Development in Bilingual Children

Very little attention has been paid to the question of the simultaneous learning of two languages in the home. The project aims at studying this problem. The results will be used to illuminate the language learning process in children in such homes and to provide a foundation for information to the families.

The project consists of four parts: a study of the literature, contact with researchers in this field, an interview study, and a longitudinal study of language development in young bilingual children from homes where the mother is a native speaker of English and the father is a native speaker of Swedish.

All of these studies have been carried out and the final report is expexted to be completed during 1981. The project was begun during the fiscal year 1977/78.

Alternatives for Language Training of Preschool Immigrant Children

Problems related to the education of immigrant children are extremely complex and have been given too little research attention in Sweden. In addition the very young child has been inadequately focused on in discussions concerning home language training. As most language development experts feel that the primary structures in language development are formed by the time the child has reached five years of age, it is crucial that home language training begin at an earlier age than has traditionally occurred The present project is a continuation of an earlier study of language development in bilingual children, focusing especially on the young bilingual child. Results from the previous study have shown that if an active bilingualism is to be achieved, a greater effort to support the second language must occur outside the home as well.

The project will consist of two parts: 1) a literature study of a) language training of bilingual children in other preschool programs both in Sweden and abroad and b) factors related to second-language learning during early childhood and 2) an evaluation of two experimental home language groups for young children, one for English-speaking children and one for Serbo-Croatian-speaking children. These groups will be connected to the "open preschool" in Linköping and will focus on language training for young bilingual children (from 2-6 years of age) in a setting where children meet with other children and adult under the consultantship of a home language teacher. Active involvement of the children's parents in the program is stressed. The evaluation will be carried out by observations, interviews with teachers and parents, and testing of the children's progress in the home language in comparison with a control group which has not received such training.

The project was begun during the fiscal year 1980/81 and is expected to be completed during the fiscal year 1981/82. It is being financed by the Swedish Delegation for Social Research.

Rehabilitation Training of Hospital Patients

This project has several goals, both pedagogical as well as interdisciplinary. The interdisciplinary goals are to plan, test, and further develop a model for the education of a defined group of patients which can be used without great costs, either financially or in terms of personnel, in an in- or outpatient setting. The pedagogical goals are threefold: 1) to gain experience in the planning, carrying out, and evaluation of a problem-oriented, participant-directed form of education outside the ordinary educational system in the school, 2) to study whether the learning process and knowledge resulting from a participant-directed education differ qualitatively from those resulting from a more traditional teacher-directed education, and 3) to study whether potential qualitative effects of the program in terms of knowledge are transferred to behavior related to the illness outside the educational situation.

The data is being collected by means of interviews measuring the patients' knowledge about their illness both before and after the education and continuous videotaping of the entire educational process. The group in focus is children from 10 to 14 years of age suffering from diabetes.

The project if financed by the National Council for Social Science Research. It was begun in the fall of 1978 and is expected to continue until 1981.

Social Interaction between Hearing and Hearing-impaired Children in the Pre-school

Most deaf and severely hearing-impaired preschool children are integrated in small groups into a larger group of hearing children. This kind of placement is a necessary, but not sufficient, condition for a "real" social or, as we have called it, "communicative integration", that is, an educational situation where the hearing-impaired children have established patterns of social interaction and communication, not only in their own group, but also with hearing children.

The research in hearing-impaired children's social interaction after integration has given inconclusive results and caused divergent opinions. This state of affairs appears, at least in part, to be due to inattention to variables of potential relevance for the development of social interaction (e.g., the attention from adults in the children's environment).

The purpose of this project is twofold: firstly, to describe and analyze the factors in the educational milieu of the preschool that determine patterns of interaction and communication between hearing and deaf children; secondly, to try to influence and shape the social interaction and communication processes in a desirable direction.

This will be done by:
a) involving parents and preschool teachers in a process of problem identification and planning in order to develop adequate intervention and training procedures
b) a collaborative effort on the part of the researchers, teachers and parents directed toward implementation and evaluation of intervention programs and training procedures in order to alleviate problems appearing.

The development and implementation of training procedures is made within the theoretical framework of social-learning theory.

The project is under the planning phase and is being financed by the Swedish Delegation for Social Research.

Studies of the Innovation Process

The aim of the project is to study the average day at a number of schools continuously over a longer period of time in order to increase knowledge concerning how the organization deals with attempts at change. Theoretical studies are being carried out concerning organizations, knowledge formation, and school ideology. The project is mainly socio-anthropological in nature, although questionnaires will also be used in the project's empirical parts. Questions concerning teaching and social psychology, developmental psychology, and organization development will be considered within the realm of the project.

The project began in 1977/78 and is expected to continue until 1981/82. It is being financed by the National Board of Education.

Open-Air Sports Activities for Secondary School Students in Inner Stockholm

The aim of the project is twofold. The first goal is to survey and analyze which factors influence the planning and carrying out of open-air sports activities at secondary schools in inner Stockholm, e.g., economic factors, access to equipment and nature areas in the vicinity, possibilities for transportation, access to leaders and instructors, etc. Also of interest is studying how such programs are related to the following areas: attitudes toward such activities, social interaction between students and personnel during the program, and changes in students' interest in and capacity to enjoy nature related activities. The second goal is to study the possibility for secondary schools to participate actively in the development of open-air sports activities and, through this, to influence how societal goals concerning such activities can be implemented in the schools. The project will include an analysis of the existing situation as well as a study using a participant-directed model.

The project will begin in 1981 and is expected to be completed by 1983/84.

c) *Concluding remarks*

The research at the department is to a large extent organized as projects. During the first development phase of the department, school research played a major role. Some school research projects still remain, but adult education projects have come to dominate more and more, and they now make up such a large proportion of the projects that the department can be said to have a research profile in adult education. Another important area which has played, and still plays, a major role is research into internationalization and international problems.

It has been considered important to the development of the department that research in other areas than adult education be organized. Systematic work is being carried out to this end and a number of new projects have been started, e.g., having to do with preschool education.

As mentioned above, the project work has developed rapidly from a rather inconspicuous beginning. The development has been strongly supported by the National Board of Education, which has granted considerable funds from its research and development funds to the department. Other funds have also contributed. It is apparent that the possibilities of the National Board of Education to fund new projects will decrease during the coming year. The department is, however, prepared to accept other funding, as exemplified by the funds received from SIDA, the commune of Linköping, and the National Correctional Administration.

GRADUATE STUDIES IN EDUCATION

Doctoral Degree Program

a) *General characteristics*

Graduate studies in education in Linköping follow two lines, a general line and a teaching methods line. The program in the first area began in 1973 with a provisional curriculum and only a few students. The latter program began in 1975.

During the first years, graduate studies were limited by a lack of funds. The former Office of the University Chancellor contributed a symbolic sum, and through cooperation from the former Teacher Training College in Linköping, its professors took up positions as advisors, examiners and teachers at the graduate level at the university. Following the university reform of July 1st, 1977, higher education and research received funds which made it possible to employ teachers and advisors to a greater extent than before.

Since their beginning, graduate studies have been highly flexible. Great emphasis has been placed on creating an education suited to the individual student's needs. As is well known, graduate students in education enter a wide variety of job fields after receiving their degrees. These include university teaching, research, educational planning, educational and other administration, work in industries, international aid and so on. This factor has been considered in planning curricula. Generally speaking, it can be said that all students must develop general base of knowledge and skills. but that, outside of this, they must also study fields suited specifically to them.

Much of the work for a doctoral degree in education can be characterised as cooperative; researchers, teachers and students work together in solving research problems both in the teaching context and in the gathering of data. Graduate students are generally connected with a research project which supplies them with data for the thesis.

b) *Curricula*

Graduate studies in education comprise 160 credit points. As one point is

considered equivalent to approximately one week of full-time studies, graduate studies correspond to four years of full-time studies. This time limit is often exceeded, however.

Below, the curriculum for the general line, as it stands today, will first be described. Following will be a summary of the curriculum for the teaching methods line. This will be followed by general comments on the curricula.

Curriculum for graduate studies in education, general line

1. Aims

Graduate studies in education aim at giving the students a general orientation into present problems in education and a broad training in research methods in the field, as well as developing an ability to analyse critically and to plan independently, to carry out, and to give an account in writing of scientific work in education.

2. Rules for admittance

Those who are qualified for admittance as graduate students in education include the following categories of students:

- Those who have satisfactorily completed a Bachelor of Arts degree (*filosofie kandidatexamen*), Master of Arts degree (*filosofisk ämbetsexamen*), Bachelor of Social Science degree (*filosofisk-samhällsvetenskaplig examen*), Bachelor of Economics degree (*ekonomexamen*) or Academic Secretary degree (*akademisk sekreterarexamen*), according to the older systems or proclamation 1969:50, in addition to having either satisfactorily completed three study units in education or units in courses in education building on eachother corresponding to 60 credit points.

- Those who have satisfactorily completed one of the general lines of study at the university level corresponding to at least 120 credit points according to University Ordinance 1977:263, in addition to having satisfactorily completed units in courses in education building on eachother corresponding to 60 credit points.

  Those who have acquired general competence through having satisfactorily completed general, local, or individual lines of study corresponding to at least 80 credit points, in addition to having satisfactorily completed units in courses in education building on eachother corresponding to 60 credit points, as well as courses corresponding to an additional 60 credit points.

Those who have acquired corresponding knowledge in another manner, either within or outside Sweden, are also qualified. The number of students accepted is decided by available resources and the availability of advisors and is determined by the college faculty board. Decisions concerning admittance of students are made by the department board.

3. The design of the education

3.1 General description

Studies for a doctoral degree in education are planned so that it will normally take four years of full-time study to complete them. For students who are instructors or research assistants, studies are planned to take five years. For other part-time students, the duration of the studies will depend on the amount of time spent on them.

In the requirements for a doctoral degree there are courses, a reading list, and a scientific project (thesis). The courses and literature studies together comprise 80 credit points, and the thesis makes up the remaining 80 points.

3.2 Courses and literature studies

At the beginning of the period of study the examiner together with the advisor sets up a program of courses for the student. This must include:

a) a mandatory literature course (20 credit points),
b) a mandatory course in methods of educational research (20 credit points),
c) three special courses chosen with consideration to the student's choice of research area (10 credit points each),
d) a special literature course selected with consideration to the student's choice of thesis subject (10 credit points).

3.2.1 The mandatory literature course

A list of books included in this course has been made. The total number of pages is approximately 4000. The list is continually revised. The literature is related to the following fields:
Comparative and historic aspects of education
Educational planning and educational technology
The education process
Measurement theory
Social psychology and social education

A series of seminars are held continuously throughout the year covering the material in this course.

3.2.2 The mandatory course in research methodology

The course is divided into the following parts:
Theory of science (5 credit points)
Statistics and data treatment (5 credit points)
Educational research design (5 credit points)
Test and measurement theory (5 credit points)

Each course includes both a series of lectures and seminars and independent reading. In the courses, the emphasis is placed on the practical aspects of the research work. One course is given each semester; the complete course is thus given once every two years.

3.2.3 Special courses

Courses are normally given every year in each of the fields mentioned in section 3.2.1 above. The courses given are revised continually and no definite list can be given. Examples of courses offered have been:

Courses in the field *Comparative and Historic Aspects of Education:*
Comparative education and history of education
International education
Educational futurology

Courses in *Educational Planning and Educational Technology:*
Educational planning
Educational technology
Evaluation

Courses in the *Education Process:*
Research in the teaching process
Adult education research
Subject-specific problems

Courses in *Measurement Theory:*
Test theory
Multivariate methods
Factor analysis

Courses in *Educational Psychology:*
Psychology of learning
Research in communication
Developmental psychology

Courses in *Social Psychology and Social Education:*
Organizational theory
Educational sociology
Personality psychology and psycho-social problems

The courses offered during an academic year vary depending on the requests of the students and the availability of lecturers. Normally, all courses will be given during a three-year period.

Each course includes a number of lectures or seminars and independent reading. It is suggested that students take courses from more than one area.

3.2.4 The special literature course

This course is planned especially for the individual student after he has begun work on his thesis and is worked on independently by the student.

3.2.5 Other courses

Besides the courses mentioned above, there are two others which give no credit points:
Data treatment by computers
The mathematical basis for educational measurement theory

The former course is meant for all who intend to gather quantitative data for treatment by computer. The latter is for students following one of the courses in measurement theory. The courses include lectures, seminars and practical exercises.

3.3 Thesis

To receive the doctoral degree, the student must author a scientific paper (doctoral thesis). This must be based on independent research according to university rules and must document the ability of the student to treat and give an account of a limited research problem in a scientific manner. The subject of the thesis is chosen together with the advisor.

The thesis may be either one coherent work (monograph), or a short summary of scientific essays which the student has had published or accepted for publication (summary thesis). It must be written in Swedish, Danish, Norwegian, English, French or German. If it is written in one of the three former languages, it must include a summary in one of the three latter.

The thesis work is normally done by one student, but may also be a joint work by more than one student. In this case the individual must have made a contribution which can be separated clearly from those of the others in order for his work to be judged.

The thesis is defended at a public disputation according to university regulations. It is given the mark pass or fail.

4. Teaching

Teaching is done in the various above-mentioned courses and takes the form of lectures, seminars, group exercises or laboratory exercises. Active participation in the courses is required.

A series of research seminars is given each semester. At these the research plans and thesis manuscripts of the students are discussed, as well as research projects at the department. Active participation at these seminars is required.

5. Advisors

A full-time student has the right to an advisor for four years, students working as instructors or research assistants for five years, and other part-time students to a similar degree.

When accepted as a graduate student, the student is assigned an advisor. The advisor works individually with the student as well as in seminars and groups exercises. The advisor will give guidance on courses, choice of area and subject of the theses, and on carrying out the thesis.

The students keep their advisors informed on the progress of the thesis through regular written or oral contact and seek advice, as needed, on future planning. During the course of the work, the student will gather material into memoranda to present for discussion at seminars, small groups, or with the advisor.

6. Examinations

In conjunction with the courses, written or oral exams are normally given. Special courses may have exams consisting instead of a project. The main

part of the literature course is subject to an oral exam.

Exams are given the grades pass or fail.

Students who have passed an exam included in the graduate studies at one university may count this at other universities.

7. Further comments on the doctoral degree

A person will receive the doctoral degree if he has received the grade pass in all courses totalling 80 credit points, and on his thesis.

Those with formal competence for studying for the doctoral degree but not accepted at the department also have the right to take exams for this degree, and present a thesis.

The curriculum for the methods of teaching line

The curriculum for the methods of teaching line is being revised. It is, however, in general, similar to the curriculum described above. Differences between the two curricula are summarized as follows:

1. Studies in the methods of teaching line are directed toward a school subject. At present, graduate studies in methods of teaching are organized for the subjects English, German, Mathematics and Physics.

2. Prerequisites for admittance are a *filisofie kandidat* degree or a comparable degree, with 20 credit points in education and 60 credit points in the subject in question. Besides this, admittance requirements are the same as for the general line. The student must be accepted as a graduate student both at the department of education and at the department responsible for the subject in question.

3. As for the general line, courses and literature represent 80 credit points, but, of these, 50 will be in education and 30 in the specific subject. The research, which also represents 80 credit points, will be in education. It represents about two years of full-time studies.

4. The course in methods of research is shortened to 15 credit points, as the course in theory of science is omitted.

5. Only one special course is required.

6. A general literature course is drawn up especially for the methods of teaching line. The general literature represents 20 credit points. A special literature course of 5 credit points is also required.

7. As opposed to students in the general line, the methods of teaching student will have more than one faculty advisor. He will be guided by a

team consisting of a teacher of education, a teacher of the specific subject and a senior lecturer in the methodology of teaching this subject.

c) *Admittance to graduate studies*

The formal requirements for admittance to graduate studies have been described on page 25. Students having a background other ground than that specified will be judged individually. The problem of judging formal competence rarely arises, and is normally related to students having foreign degrees.

Foreigners are normally required to have a Master's degree from a well-known university, and the prior studies should have included such a combination of courses that it is judged that the student can readily follow the graduate courses. If the student comes from a country with a different educational system, he will be judged separately. In many cases it may be necessary to demand that the student have a doctoral degree from his nation's system in order that he gain admittance to graduate courses in Sweden. Normally, foreign students have to complement their studies with a few undergraduate courses before entering the graduate program. It may also be of interest to note that graduate students are required to have a knowledge of the Swedish language in order to be accepted. As the number of applicants to graduate studies is much larger than the available number of places, it is necessary to make a choice of applicants. At present, the number of places is limited to 45, and it is probable that no more than 4-6 new students will be accepted each semester. Exception may be made for a foreign student to be accepted as an extra student if he is judged to be exceptionally promising.

Students who wish to seek admittance should write to the director of the department of education to receive application forms. These forms must be accompanied by certified copies of grade reports, birth certificates, a list of publications, and other documents which may be of interest. If possible, a copy of each publication should be submitted. It is also important to give information about practical work experience. It is normally recommended that graduate studies are begun during the fall semester, which means that the student should contact the department before the end of the previous spring semester. Foreign students not competent in Swedish must expect to study this for at least one semester. This time may also be spent in studying areas in which the student has been found to have insufficient

knowledge. It is therefore recommended that application forms are received in November from foreign students who wish to begin graduate studies the following August. Applications received at other times will also be considered, however.

d) *Courses*

The student must, besides working on his thesis, attend and take examinations in certain courses, and be examined on certain literature:

(1) Mandatory literature course
(2) Mandatory course in research methodology
(3) Special courses: three in the general line, one in the teaching methods line
(4) Special literature

Each course consists of lectures or seminars, and literature. At the end of the course there is a written or oral exam. The type of exam may often be discussed with the students attending the course; normally it will include some form of individual work. There are also general seminars, which are mandatory.

The following system has been designed for the courses. Seminars on the mandatory literature course are given regurlarly, and after two years, all the literature will have been studied. The mandatory course in research methodology is also given continuously over a two-year period, one of the four courses being given each semester. The eighteen special courses are given over a three-year period. Three are normally given each semester. A course will therefore be available again after about three years. Note, however, that the course program may be revised. Many of the students now preparing for their doctoral degrees have already selected courses. New students and students who have recently entered the program are, according to the new curriculum, required to discuss their studies with their advisor and the department professor. Together with them, he will decide what courses to attend, and when to attend them. The choice of courses is therefore not totally free. For a student to be allowed to count the points for a course, the selection must be confirmed, and the course must form a unit around the thesis subject. It is obvious, however, that the student influences the selection of courses.

During the planning of a course, the wishes of a student concerning times

will be taken into account if possible. Each special course consists of about 30 hours of lectures or seminars, each separate course in the research methodology course about 20. To this is added group and individual work.

e) *The thesis*

As the choice of special courses and literature is made according to the selection of research area, it is important that this selection be made as soon as possible. Most students find that it is best to choose a thesis subject which is related to one of the research projects in progress at the department. Some of the graduate students have jobs within certain projects as researchers or instructors; others do their work within a project in order that costs may be defrayed. Most employees of the department that may be advisors are also scientific advisors or administrators for various projects. It is therefore normally possible to choose a thesis subject within the framework of one of the advisor's projects. The choice of subject is, however, always made by the student, he is never assigned one. Before the final selection is made, he must consult his advisor and the full professor of the department.

Writing a thesis is the most important problem faced by a graduate student, and no general rules can be given for how to solve it. Seminars are arranged on the thesis work while this is in progress, and before the thesis is printed.

Publication of a thesis follows certain rules. These state that is must be printed in at least 400 copies. Most theses in Linköping are monographs, but it is also possible to write a series of articles in scientific publications, and present a summary of these as a thesis. The department has decided that all theses in education will be printed in off-set, and that the thesis will be published in the series Linköping Studies in Education: Dissertations. Copying of manuscripts, drawing of figures etc., and printing of the thesis is payed for by the university for up to 160 pages and 400 copies. The author must pay for additional costs.

The thesis is normally written in English, but may also be written in other foreign languages or Swedish. A thesis written in a Scandinavian language must include a comprehensive summary in English. Costs for translation into English, or for editing are defrayed by the university according to definite rules. If the student does not have a very strong argument

against it, the department will require that the thesis be written in English.

After the thesis is published it must be "posted". This means that it is made available for general perusal for three weeks. Under certain circumstances, this posting time may be shortened. After this it will be publicly defended at a disputation. The College Board will appoint an official "faculty opponent", who will study the thesis and discuss it with the author. When he has given his opinions the audience is invited to present theirs. The department professor is normally chairperson at the disputation and decides in what order the above will take place.

The College Board also appoints an examination jury consisting of three people from the university. The advisor and the department full professor are always included. The jury decides whether the thesis will receive the grade pass or fail. No other grades may be given, and the members of the jury are prohibited from discussing the thesis in other ways.

The time and place for the disputation is decided by the board of the President of the University.

A student who has received 80 credit points in courses and literature in accordance with the present curriculum, and who has had his thesis passed receives the title of Doctor of Philosophy. Grades are handed out immediately after application. Every two years the doctors are laureated at a ceremony in Linköping Cathedral.

Up till now fourteen theses have been presented in Education:

HOLM, ROLF, Massed and Distributed Criterion Information. Studies of Verbal Learning. 1973.

TROPÉ, BARBRO, Individual Discovery and External Direction. Studies of the Effects of Different Methods of Instruction. 1974.

LINDGREN-HOOKER, BERNICE, Educational Flow Models. With Applications to Arab Statistical Data. 1974.

HOLM, ULLA, Criterion Information and Principle Information. Studies of Verbal Learning. 1975.

GRUNDIN, Hans U., Response Requirement and Information about Correct Responses in Programmed Instruction. 1975.

ADHAM, KHALIS I., Planning Medical Education: Ways to Improve Conditions of Students in Medical Schools in Iraq. 1975.

ERASMIE, THORD, Language Development and Social Influence. 1975.

STOCKFELT-HOATSON, BRITT-INGRID, Training of Immigrant Children in Preschool in Norrköping. 1978.

CHAIBDERRAINE, MOHAMED, Educational Wastage at the Primary Level. 1978.

ENGVALL, THORVALD, Förutsättningar och hinder för småföretagsutbildning. 1980.

BORGBRANT, JAN, Ledningsutveckling. Modellanalys i anslutning till två utvecklingsprojekt. 1980.

HULT, HÅKAN, Vuxenstuderandes studiesituation. En undersökning utförd inom kommunal vuxenutbildning. 1980.

HULTMAN, GLENN, Organisationsutveckling genom ledarutbildning. En utvärdering av skolledarutbildningens första utbildningsomgångar. 1981.

ARNBERG, LENORE, Early Childhood Bilingualism in the Mixed-Lingual Family. 1981.

A large number of theses are at present being completed. Here are given examples of such as will probably be presented within the next year or so. Observe that in no case is the final title set.

Changes in the factor structure caused by practice, changes in the level of difficulty of a problem, age, and experience in a subject (Gunnel Stjernberg),

Training of counterparts in international aid programs (Kenneth Lindquist),

Models of in-service training of teachers (Tomy Carlberg),

Evaluation of functionary training in trade unions (Bertil Danielsson),

Analysis of aims and evaluation of training of civil aviators (Harri Jalonen),

Interdisciplinary project studies in secondary school (Sigrid Eklund)

Higher education evaluation: Investigation of graduate studies of education in Sweden (Hossein Lotfabadi),

Planned Change in Educational Organizations (Per-Erik Ellström).

f) *Advisors*

Each graduate student is assigned a faculty advisor. The tasks of the advisor may be seen in the curriculum description presented above. Normally the student will meet his advisor several times each month, and especially often during the thesis work. During the spring semester, 1981, the following employees of the department were advisors for one or more graduate students:

Lars G. Bäckström (educational technology, adult education),

Mats Ekholm (social processes in school, in-service training of teachers, process research),

Harald Eklund (teacher training and in-service training, adult education, psychology of learning),

Thord Erasmie (child and youth psychology, pre-service training of teachers, adult education, psycho-linguistics),

Karl Henrik Eriksson (social psychology, personality psychology, pre-service training of teachers),

Rolf Holm (psychology of learning, industrial education),

Eve Malmquist (psychology of reading and writing, developmental psychology),

Ulla Riis (educational psychology, educational technology),

Ingvar Werdelin (methods of educational research, concept formation, educational planning, international education, adult education).

Masters's Degree Program

a) *Qualifications for admittance*

General qualifications

Foreign students who abroad have qualified for university studies and who, either abroad or in Sweden, have completed a basic degree at the university level (e.g., Bachelor of Arts, Bachelor of Science) are qualified for admittance to the program.

Specific qualifications

In addition to having completed a Bachelor's degree abroad (or a course

consisting of a comparable amount of study), the student must have satisfactorily completed courses in education corresponding to 60 credit points.

For specific qualifications for admittance with regard to degrees completed within the Swedish educational system, see the qualifications for admittance to the doctoral program, page 25.

b) *General description of the program*

The program consists of 60 credit points, of which 20 points correspond to an independent thesis and 40 points correspond to course work and independent reading.

The thesis is usually carried out by an individual student although group projects are also acceptable. The thesis may be designed to meet a variety of objectives, e.g., a project carried out specifically to satisfy degree requirements, as a part of further doctoral studies, etc. The purpose of the thesis is to document the student's ability to assimilate the course and independent reading material, as well as to deal with a limited research problem in a scientific way.

For a description of courses and independent reading studies, see the description of these areas in connection with the doctoral program on pages 26-27 and 31-32.

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ISBN 91-7372-484-X
ISSN 0348-4785

TRYCK-CENTER AB
Linköping 1981